



Manufacturing Engineering Division

NEWSLETTER FALL 2013

<http://divisions.asme.org/med/>

Message from the Chair

Dear Fellow Manufacturing Engineering Division (MED) Members,

On behalf of the MED Executive Committee, I am writing this article for the newsletter to provide you with an update on the state-of-the-division. The division remains strong with 3200 primary members and continues to grow. This is due to the dedicated members and volunteers like you that continue to advance the science and practice of manufacturing both nationally and internationally. There are several exciting activities and initiatives at the division and society level that will sustain these current trends into the future.

Active member participation is always a key to the growth and prosperity of a volunteer-based organization such as ASME/MED. Our executive committee currently consists of Dr. Xiaoping Yang (Vice Chair), Prof. Brian Paul (Program Chair), Dr. Shawn Moylan (Secretary/Treasurer), and Dr. Edmund Chu (incoming member). MED's technical needs are well served by eight active and highly-regarded Technical Committees (TC), with many of them having new leadership teams in place for the 2013-2014 term. They are the Manufacturing Processes TC chaired by Prof. Kevin Chou and co-chaired by Dr. Radu Pavel; the Manufacturing Equipment TC chaired by Profs. Sathyan Subbiah and Samuel Johnson; the Manufacturing Systems TC chaired by Profs. Jaime Camelio and Seungchul Lee; the Quality & Reliability TC chaired by Profs. Dragan Djurdjanovic and Lin Li; the Life Cycle Engineering TC chaired by Profs. Chris Yuan and Barbara Linke; the Nano/Micro/Meso



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EDITOR – Kevin Chou

Manufacturing TC chaired by Dr. Wenwu Zhang and Prof. Curtis Taylor; the Biomanufacturing TC chaired by Profs. Scott Miller and Eda Yildirim-Ayan; and the Textile & Composites Engineering TC chaired by Profs. Gap-Yong Kim and Ronald Bucinell. In addition to their leadership roles on technical committees, Prof. Kevin Chou also serves as the Newsletter Editor who brings you this wonderful Fall 2013 edition; and Prof. Gap Kim continues to be the Web Liaison for MED and the Manufacturing Technical Group and provides timely updates on matters of interests to our membership at our website <http://divisions.asme.org/med/>. Our Division is also supported by two dedicated ASME staff, Ms. Erin Dolan and Mr. Robert Powers. The entire MED Leadership team is here to serve our members. Please feel free to contact us if you have any questions. Suggestions on how to improve MED's operations are always welcome.

Our flagship annual conference, the 2013 International Manufacturing Science and Engineering Conference (MSEC 2013), was held in early June at the University of Wisconsin. It was a

huge success by all accounts. It was collocated again this year with the 41st North American Manufacturing Research Conference (NAMRC41). This arrangement continues to provide our members with an exceptional opportunity to interact with colleagues from the Society of Manufacturing Engineers. Please join me in thanking the many volunteers for making the Conference a success, especially our host, Profs. Frank Pfefferkorn, Neil Duffie, and Xiaochun Li for their extraordinary efforts to welcome us all to Madison; our Program Chair, Prof. Laine Mears, and Program co-Chair, Prof. Ihab Ragai, for assuring the quality and continued growth in the technical program; and all symposium organizers and session chairs for their hard work and dedication.

Our next conference, MSEC 2014, will be hosted by Profs. Albert Shih, Chinedum Okwudire, and Kira Barton of the University of Michigan in Detroit next June. It will again be collocated with NAMRC as well as the Japanese Society of Manufacturing Engineers (JSME) International Conference on Materials and Processing and two additional Society of Manufacturing Engineers conferences, Rapid and The Big M. This will truly be an extraordinary event with balanced research and industrial presentations from both national and international experts. The technical program will be chaired by Profs. Ihab Ragai and Gracious Ngaile. To those who have already submitted papers to MSEC 2014, I thank you for your participation. To the rest of the MED community, you still have time for paper and poster submissions. You can also join us at the event through panel discussions, an Early Career Forum, or simply attending the conference and industrial exhibitions. Profs. Shih, Ragai and Ngaile are putting together a wonderful program for us all.

As the premier organization for manufacturing researchers and engineers in the US, MED has two technical journals, the ASME Journal of Manufacturing Science and Engineering (JMSE) with Prof. Lawrence Yao of Columbia University as its Editor and the ASME Journal of Micro- and Nano-Manufacturing (JMNM) with Prof. Jian Cao of Northwestern University as its founding Editor. Both of these Editors are finishing their first years on the job and have continued the strong tradition for our journals. Please join me in thanking Profs. Cao and Yao and all of the Associate Editors for their service to MED.

As a community, it is extremely important to honor our colleagues who deserve the highest recognition. Awardees will serve as role models and inspire their peers and future generations in various roles. Awards administrated by MED include the Blackall Machine Tool and Gage Award, the William T. Ennor Manufacturing Technology Award, the Chao and Trigger Young Manufacturing Engineer Award, the Milton C. Shaw Manufacturing Medal, and the M. Eugene Merchant Manufacturing Medal. I encourage you to submit your nominations to respective committee chairs. Details can be found at the MED website http://divisions.asme.org/med/Honors_Awards.cfm.

The custodial account for our division has seen a solid growth over the past years, largely due to the strengths of our ASME journals and MSEC conferences. We are now in a strong position to explore new ideas to further strengthen our Division and serve our members. For instance, initiatives to bring high profile international symposium keynote speakers and to further strengthen our journals are underway. The Executive Committee and the entire Leadership team would love to hear ideas from you on how we could use these funds to better serve the MED community!

Manufacturing forms the backbone of our economy and national security. In response to President Obama's Advanced Manufacturing Partnership, ASME is developing a society-wide Advanced Manufacturing Initiative, and MED is playing a leading role in this effort. You can find more details about this initiative and in particular the Advanced Manufacturing Impact Forum which will be held during the International Mechanical Engineering Conference and Exposition (IMECE 2013) in this newsletter.

I wish all of you the very best in the coming year.

Brad Kinsey, MED Chair (2013-2014)
University of New Hampshire
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In Memoriam – Stephen Malkin (1941-2013)



Distinguished Professor Stephen Malkin passed away on Monday, August 19, 2013. He was a Distinguished Professor of Mechanical Engineering at University of Massachusetts at Amherst 1986-2009, a Society of Manufacturing Engineering Fellow, received the William T. Ennor Manufacturing Technology Award from the American Society of Mechanical Engineers and a member of the National Academy of Engineering. Professor Malkin was also a Fellow of The International Academy for Production Engineering (CIRP).

Professor Malkin was an international leader in manufacturing whose research contributions have advanced the knowledge and made an everlasting impact. His engineering achievements not only improved industry productivity but also benefited the whole society. He has advised and taught many students who will continue his professional legacy and direction for generations. His book on Grinding Technology is the most studied book in the profession and many engineers keep his book within reach at their desks because they consult it regularly. He was a wise man with a great mind. He was a modest person who always wanted to help everyone and everyone who he worked with respected and liked him. He will be remembered by all of us.

In 2014 ASME MSEC, we have dedicated a symposium, Advances in Abrasive Machining Processes, in honor of Professor Steve Malkin.

Albert Shih, University of Michigan

8th ASME International Manufacturing Science and Engineering Conference Hosted by University of Wisconsin, Madison, WI, June 10-14, 2013. Technical Program Report

By Laine Mears and Ihab Ragai - Program Chairs

The 8th ASME International Manufacturing Science and Engineering Conference (MSEC2013), sponsored by the Manufacturing Engineering Division (MED) of ASME, was jointly held with the 41st North American Manufacturing Research Conference (NAMRC41), sponsored by the North American Manufacturing Research Institution of SME (NAMRI/SME), and hosted by the University of Wisconsin-Madison from June 10 to June 14, 2013. As leading world-class societies in the Mechanical Engineering field, ASME and SME act as global bridges between industries, government laboratories, and academic institutions.

The MSEC2013 proceedings include 147 peer-reviewed papers (152 accepted to conference - 5 removed for no-show) and 20 posters. 10 additional posters were presented at the conference but not included in the proceedings. The technical papers and posters come from authors representing 22 countries around the world. MSEC is pleased to present four technical tracks in the MSEC2013 proceedings: Processing, Systems, Micro and Nano Technologies, and Sustainable Manufacturing. The Sustainable Manufacturing track was continued from its debut last year, and expanded to 3 Symposia this year. In the 4 technical tracks, a total of 22 symposia were executed.

The joint conference consists of 3 keynote speeches, 4 plenary panel presentations, the NAMRI/SME Founders Lecture (NAMRC), 89 concurrent technical sessions (61 MSEC sessions and 28 NAMRC sessions), an early career forum, industry and laboratory tours, a student manufacturing design competition (MSEC), and a student author research presentation competition (NAMRC). The early career forum was sponsored by the ASME Old Guard, ASME MED, SME, and the

National Science Foundation, and was conducted with great success because of Prof. Hitomi Yamaguchi's leadership. In addition to paper submissions from foreign institutions, participation by non-US students in the student design competition is encouraged to promote the globalization of the conference. One of the seven teams entered was from Singapore. To help conference attendees to plan their participation and interaction with others, equal time was allotted for each technical paper presentation regardless of the conference (MSEC or NAMRC) in which it was included. This approach seemed to please the conference attendees.

The symposium organizers nominated 19 papers for the Best Paper Award. The 19 papers were reviewed and ranked by MED Executive committee, technical program chairs, and symposium organizers. The recipients of the Best Paper Award were as follows:

1st Place: *A Model-Based Computationally Efficient Method for On-Line Detection of Chatter in Milling* by Lei Ma, Shreyes Melkote and James Castle

2nd place: *Cutting Force of Hollow Needle Insertion in Soft Tissue* by Bruce L.Tai, Yancheng Wang and Albert J. Shih

3rd place: *Characterization of Fluid Film Produced By An Atomization-based Cutting Fluid (ACF) Spray System During Machining* by Alexander C. Hoyne, Chandra Nath and S. G. Kapoor

The MED Executive committee selected the recipients of the Best Symposium and Session Organizer (BOSS) award; the candidates were nominated by the technical program chairs. This year's recipients were Arif Malik and Charlie Zhichou Li for their symposium entitled *Modeling and Simulation of Manufacturing Processes*. The symposium organizers played key roles in constructing high-quality technical sessions and drawing a large number of papers.

The Civil, Mechanical, and Manufacturing Innovation (CMMI) Division of the National Science Foundation supported student conference participation. Students studying in US institutions and planning to attend the MSEC/NAMRC/ICTMP applied for this opportunity, and 78 students (58 doctoral, 8 Master's, and 12 undergraduate students) received conference registration support. Of the supported students, 11 were from underrepresented groups.

The successful conference was the result of the outstanding efforts of many people. We would like to express our gratitude to all the volunteers (student workers, symposium organizers, session chairs, track chairs, and hosts), as well as individual and corporate sponsors who supported the 2013 event.

Student Manufacturing Design Competition at MSEC 2013

By Brian Paul - Student Competition Coordinator

The 2013 ASME MED Student Manufacturing Design Competition took place at the University of Wisconsin in Madison, Wisconsin during the 2013 Manufacturing Science and Engineering Conference. The competition comprised seven finalists. Each finalist was represented by at least one team member who attended the conference. Teams received travel assistance from MED and/or the National Science Foundation. The top three awardees were:

First Place Winner: Robert Iuliano representing Rensselaer Polytechnic Institute for "The Design, Manufacture and Assembly of a Book Bank"

Second Place Winner: Matthew Klompas representing Rensselaer Polytechnic Institute for "The Design, Manufacture and Assembly of a Water Gun"

Third Place Winner: Stephen Racca and Kristen Berube representing the University of New Hampshire for “The Development of a Continuous-Bending-Under-Tension Machine”

Awardees were granted cash prizes of \$1000, \$750, and \$500, respectively. Other finalists included teams from Oregon State University, University of Florida, University of Michigan and Nanyang Technological University in Singapore. All participants were well prepared and presented projects demonstrating results with a high potential for impact in industry. Judges for the event included Xiaoping Yang from Cummins Inc., Shawn Moylan from the National Institute of Standards and Technology and Brian K. Paul from Oregon State University.

Early Career Forum at MSEC 2013

By Hitomi Yamaguchi – Organizing Committee Chair

The Early Career Forum (ECF) was held during the joint conference of the 8th ASME International Manufacturing Science and Engineering Conference (MSEC 2013) and the 41th North American Manufacturing Research Conference (NAMRC41) at the Monona Terrace Community and Convention Center in Madison, WI, on June 11, 2013.

The goal of this Early Career Forum was to provide recent advanced-degree graduates and current graduate students with information and knowledge of various career paths in industry, academia, government organizations, and national laboratories, as well as paths as technology entrepreneurs. Panelists who have taken various career paths described their keys for successful career development. The ECF took place the first time during MSEC2010, and this year’s forum was the fourth such event. There were 85 participants this year including 10 panelists from academia, national laboratories, government agencies, and industry. In addition, two entrepreneurs joined the forum to share their experiences with the participants.

Panelists:

Professor Thomas R. Kurfess (Georgia Institute of Technology)

Professor Karl R. Haapala (Oregon State University)

Professor Michael R. Zinn (University of Wisconsin-Madison)

Dean Ken Starkman (Madison Area Technical College)

Dr. Zhijian (ZJ) Pei (National Science Foundation)

Dr. Shawn P. Moylan (National Institute of Standards and Technology)

Dr. Ihab Ragai (Hitachi Truck Manufacturing)

Dr. Ramasubramani (Ram) Kuduva Raman Thanumoorthy (3M)

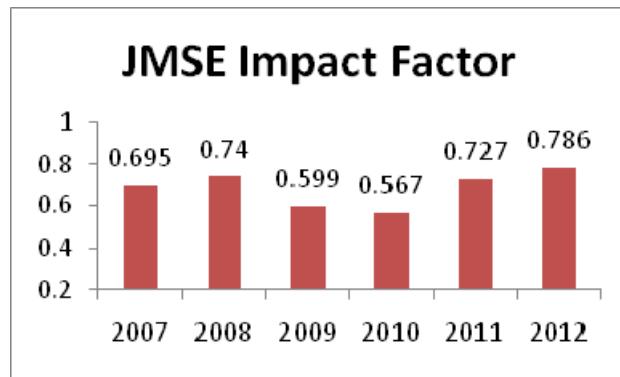
Ms. Jasmine Bridges (Boeing)

Dr. Rajesh V. Mehta (National Science Foundation)

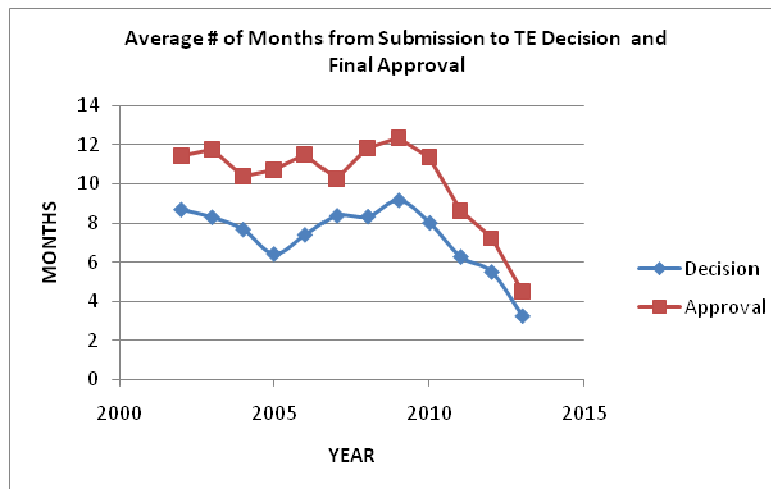
The forum consisted of two sessions: panelist speeches and breakout discussions. After listening to the panelists’ varied experiences and valuable advice, groups of seven participants sat with a panelist each in a friendly atmosphere to share ideas and light refreshments. The committee received many expressions of appreciation and supportive, productive comments for future forums. For example, participants felt that talking with the panelists was very fruitful and beneficial, and it would be better and more interesting if the second session (breakout discussion) could be extended in the future. It might provide opportunities for the participants to talk with more than one panelist. In general, it was felt that future forums could be improved by maximizing publicity, adjusting the forum structure and organization, communicating closer with organizers and panelists, and involving the voice of the students. The committee would like to take this opportunity to thank you for all of support and assistance we received.

The Journal continues to be on a solid footing, with an annual submission rate that remains steady at well more than 300 manuscripts. In 2013, we received 338 submissions as of September 11, while submissions for the entire year of 2012 totaled 360. In addition, the number of pages per issue has increased from 180-200 to about 220. This means that we are slightly exceeding our annual allowable allotment of 1,100, but we have needed the space to accommodate the number of papers that have been submitted and accepted, and still have a substantial number waiting in our pipeline.

Despite this strong showing, we continue to face a number of challenges. We are working to improve them and are beginning to see some results. Chief among these is our impact factor, which is still low, but has shown a modest increase since last year, as the figure below indicates. It is also, by a bit, at the highest point it has ever been.



Since impact factor seems related to a number of variables, including the length of time that submissions spend in review, we have focused on streamlining our review process, without sacrificing quality, and are working to reduce the length of time that submissions spend in the system. Although year-end figures for 2013 are obviously not available yet and are likely to increase, we are already seeing results from our concerted efforts to reduce this time. As of September 13, 2013:



We have received many submissions for our Special Issue on Thermally Assisted Manufacturing, planned for December 2013. With Professor Yung Shin, from Purdue University, manning the helm as our erstwhile and hard-working Guest Editor, we are looking forward to a robust and interesting issue.

Our current Editorial Board consists of 19 members, including the TE. We want to thank Prof. Steven Skerlos for his fine service to the Journal as an AE; and we welcome two new AEs: Profs. Jaime Camelio, of Virginia Polytechnic Institute and State University; and Gracious Ngaile, of North Carolina State. In addition, three AEs have been reappointed to their second three-year term: Profs. Yong Huang, of Clemson University; Tony Schmitz, of the University of North Carolina at Charlotte; and Allen Yi, of Ohio State. We thank them for their past service and look forward to our continuing collaboration with them.

On behalf of the Editorial Board, I would like to thank the authors and reviewers for their continued support of JMSE. I also invite and strongly encourage you to participate in the process of strengthening the Journal by sending me your thoughts and ideas for improving JMSE and our service to the community: yly1@columbia.edu, 212-854-2887.

ASME Journal of Micro and Nano-manufacturing (JMNM)

Submitted by Jian Cao

The *ASME Journal of Micro and Nano-Manufacturing (JMNM)* is the latest addition to the ASME journal series, publishing its first issue in March of this year, followed by two additional issues published in June and September. I am grateful for the hard work and support of our colleagues within the ASME community who have helped us develop this valuable new contribution to the ASME journal series.

This new title provides a forum for the rapid dissemination of original theoretical and applied research in the areas of micro and nano-manufacturing. It offers special coverage of research relating to process innovation, accuracy and precision, throughput enhancement, material utilization, compact equipment development, environmental and life-cycle analysis and predictive modeling of manufacturing processes with features sizes less than one hundred micrometers.

Two new members were added to the current Editorial Board to broaden the technical coverage of our current board. Dr. Bin Wei of the General Electric Company specializes in non-traditional manufacturing processes with a broad perspective in manufacturing process monitoring, modeling and control, and quality engineering. Dr. John Coulter of Lehigh University specializes in polymer processing with applications in tissue engineering and energy. I am proud to work with a team of international experts on the JMNM Editorial Board who provide expertise and conduct the peer-review process for our full-length research papers and technical briefs with potential for new contributions in technology reviews, book reviews, and discussions.

A special issue is planned for June of 2014, for quality papers submitted to the Symposium on Micro/Nano Scale Fabrication Processes at the upcoming 2014 ASME Manufacturing Science and Engineering Conference taking place in Ann Arbor, Michigan from June 9 – 13. This conference will be led by Prof. Cheryl Xu of the University of Central Florida in collaboration with Dr. Hongqiang Chen of GE and Prof. Wenwu Zhang of CAS in China. The deadline for paper submissions is November 3, 2013.

On behalf of the Editorial Board, I would like to thank the authors and reviewers for their continued support of JMNM. We look forward to continuing our work within the ASME community in creating a platform for scholars and experts from across the globe to educate and discover.

Please submit your manuscripts to JMNM at <http://journaltool.asme.org>.

Honors Committee Reports

Blackall Machine Tool and Gage Award

Submitted by Shreyes Melkote

The Blackall Machine Tool and Gage Award is presented for the best current original paper or papers (not published elsewhere) which has/have been presented before ASME and/or published by ASME during the two calendar years immediately preceding the year of the award. The paper(s) should be clearly concerned with or related to the design or application of machine tools, gages, or dimensional measuring instruments, submitted to ASME for presentation and publication.

The Blackall awardees for 2013 are: C. Eksioglu, Z.M. Cilic, and Y. Altintas for their paper titled "Discrete-Time Prediction of Chatter Stability, Cutting Forces, and Surface Location Errors in Flexible Milling Systems", *Journal of Manufacturing Science and Engineering*, Volume 134, pp. 061006-1 to 13, December 2012.

William T. Ennor Manufacturing Technology Award

Submitted by Shreyes Melkote

The William T. Ennor Manufacturing Technology Award is presented to an individual or team of individuals for developing or contributing significantly to an innovative manufacturing technology, the implementation of which has resulted in substantial economic and/or societal benefits.

The Ennor awardee for 2013 is Professor John W. Sutherland of Purdue University.

Chao and Trigger Young Manufacturing Engineer Award

Submitted by Shreyes Melkote

The award recognizes a young manufacturing researcher under 40 with potential for significant fundamental contributions to the science and technology of manufacturing processes.

The Chao and Trigger awardee for 2012 is Professor Gary J. Cheng and the awardee for 2013 is Professor Nicholas X. Fang of Massachusetts Institute of Technology.

M. Eugene Merchant Manufacturing Medal of ASME/SME

Submitted by Jian Cao

On behalf of the members of the ***M. Eugene Merchant Medal of ASME/SME*** award selection committee, it is our great pleasure to announce this year's awardee, Mr. Bryan G. Dods of General Electric Energy for his technical contributions and leadership in increasing assembly efficiency, improving superalloy machining productivity, increasing the impact of process modeling and simulation in the areas of preventive maintenance and manufacturing in general, and in promoting manufacturing education and research.

The M. Eugene Merchant Manufacturing Medal of ASME/SME is awarded to an individual who has had significant influence and responsibility for improving the productivity and efficiency (either by research or by implementation of research) of the manufacturing operation(s). This award was established in 1986 in honor of M. Eugene Merchant.

The selection committee consists of three immediate past recipients, ASME/MED Vice Chair, ASME MTG leader, three members-at-large, SME President and the committee Chair. The committee unanimously praised the extraordinary quality of each candidate and thoroughly discussed their major achievements and how those achievements reflected or matched what this particular award is intended for. Mr. Bryan Dods emerged as the committee's top choice due to his significant work on improving the productivity and efficiency of manufacturing operations. Mr. Dods delivered his acceptance speech at the 2013 ASME Manufacturing Science and Engineering Conference in Madison, Wisconsin and will receive his award officially at the upcoming IMECE in San Diego this November. Congratulations to Mr. Dods for receiving this prestigious award!

The nomination of this award is due annually by February 1. Information on how to nominate a candidate and past recipients can be found at asme.org.

Milton C. Shaw Manufacturing Research Medal

Submitted by Shounak Athavale

Milton C. Shaw Manufacturing Research Medal was established in 2009. However the medal was awarded first time in 2011. The award recognizes significant fundamental contributions to the science and technology of manufacturing processes. The nominations are due to the Honors Committee by February 1st. The nominations are considered for five calendar years beginning the first year of consideration. Nominations can be revised each year. Nomination forms and rules are available on the ASME web site.

The 2013 Milton C. Shaw Manufacturing Medal Committee reviewed and evaluated eight nominees for this award. It was the Committee's conclusion that Prof. I. S. Jawahir's fundamental contributions to advancing manufacturing science and engineering by developing predictive performance models and optimization techniques for machining operations such as turning, milling and drilling, and by introducing environmentally-benign, sustainable dry, near-dry and cryogenic methodologies are significant and worthy of the award. Congratulations to Prof. Jawahir on receiving this award.

Past recipient of this award are: Prof. Hoshi (2011), and Prof. Ehmann (2012).

Nomination Deadline for All Awards above:

February 1 annually. Please visit ASME MED website (http://divisions.asme.org/MED/Honors_Awards.cfm) for details.

Upcoming Events

9th ASME International Manufacturing Science and Engineering Conference

Submitted by Albert Shih, Ihab Ragai, and Gracious Ngaile

2014 MSEC / NAMRC / ICM&P

June 9 – 13, 2014 in Detroit, Michigan USA



Conference Hotel –
Detroit Marriott at the Renaissance Center



Conference Venue –
Cobo Center on the Detroit Riverfront



Award Dinner – Jack Roth Stadium Club
at Michigan Stadium (“the Big House”)

The University of Michigan--Ann Arbor is pleased to invite you to attend the **2014 International Manufacturing Research Conference**, combining three organizations:

- **American Society of Mechanical Engineers (ASME) International Manufacturing Science and Engineering Conference (MSEC 2014)*;**
- **42nd North American Manufacturing Research Conference (NAMRC 42), sponsored by the North American Manufacturing Research Institution of the Society of Manufacturing Engineers (NAMRI/SME); and**
- **Japan Society of Mechanical Engineers (JSME) International Conference on Materials and Processing (ICM&P 2014), sponsored by the JSME and ASME**

MSEC is the foremost annual forum sponsored by the Manufacturing Engineering Division (MED) of ASME International. It is intended to disseminate the most recent manufacturing research and development through both technical presentations and panel sessions.

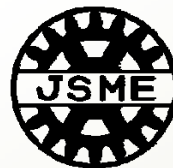
NAMRC is the premier international forum for applied research and industrial applications in manufacturing and design, sponsored by NAMRI/SME. Global academicians, government and industry researchers, engineers, and leaders in manufacturing attend this conference to interact with each other and advance the field.

ICM&P is the key conference of the Materials and Processing Division (M&P) of JSME. The conference highlights cutting-edge manufacturing research in technical paper, poster, and panel sessions.

The conference schedule will include keynote and technical presentations; expert panels; student poster presentations; an exhibition of industry partners; an early career forum; University of Michigan lab tours; industry tours; an awards banquet; luncheons; and more. These co-located conferences will be held at the Cobo Center, located on Detroit’s revitalized riverfront, in conjunction with the SME BigM event and exhibition.

Michigan and its adjacent regions are the manufacturing centers of North America. Detroit Wayne County Metro Airport (DTW) is 21 miles (34 km) from the convention center and hotels.

Visit <http://namrc-msec-icmp-2014.engin.umich.edu> for updated information.



MSEC 2014 Technical Program Summary

Tracks (Total 5 tracks)

- 1- Materials
- 2- Processing
- 3- Micro and Nano Technologies
- 4- Properties, Applications and Systems
- 5- Sustainable Manufacturing

MSEC Symposia (Total 28)

Symposium	Track
1 Advances in Experiments and Modeling of Micromechanics and Microstructure Evolution in Manufacturing Processes	Materials
2 Advances in Manufacturing and Application of Metal Matrix Composites	Materials
3 Micro/Nano Scale Fabrication Processes	Micro/Nano
4 Laser, Process Innovations and Energy Field Manufacturing Methodology	Processing
5 Advances in Modeling, Analysis, and Simulation of Manufacturing Processes	Processing
6 Advances in Abrasive Machining Processes	Processing
7 Advances in Nontraditional Manufacturing Processes	Processing
8 Forming and Joining of Traditional and Lightweight Materials	Processing
9 Advances in Additive Manufacturing	Processing
10 Advances in Manufacturing Processes of Biomedical Instruments	Processing
11 Advances in Manufacturing Processes of Biomedical Materials and Products	Processing
12 Advancement in Manufacturing Processes for Energy Efficiency	Processing
13 Equipment and Tooling design innovations to enhance manufacturing processes	Processing
14 Modeling, Monitoring and Control of Semiconductor Manufacturing Processes and Systems	Processing
15 Tribology in Manufacturing Processes	Processing
16 Advances in Processing of Polymer and Polymer-Based Composites	Processing
17 Sustainable Manufacturing for Emerging Technologies	Sustainable
18 Sustainable Industrial Systems	Sustainable
19 Advances in Manufacturing of Sustainable Composites	Sustainable
20 Monitoring, Sensing, and Control for Intelligent Machining and Inspection	Systems
21 Advances in Concurrent Product Design and Manufacturing Systems	Systems
22 Advances in Manufacturing Systems Research for Energy Efficiency and Green Energy	Systems
23 Mechatronics for Advanced Manufacturing	Systems
24 Process and Quality Control in Manufacturing	Systems
25 Challenges in Cloud Manufacturing	Systems
26 Optical metrology and imaging for manufacturing industry	Systems
27 System-level Integration of Additive Manufacturing for Design, Production and Supply Planning	Systems
28 Competitive Manufacturing Engineering	Systems

Summary of ASME/JSME Combined Symposia

Tracks	ASME	JSME	Combined	Total
Materials	1	6	1	8
Processing	9	4	4	17
Micro and Nano Technologies	0	1	1	2
Properties, Applications and Systems	8	0	1	9
Sustainable Manufacturing	3	0	0	3
Total	21	11	7	39

Submission Deadline of Abstract/Full-Length Draft Paper for Review - **November 1, 2013**

Submissions will only be accepted via the conference website at www.asmeconferences.org/msec2014/

ASME Advanced Manufacturing Impact Forum

Submitted by Raj Manchanda and Brandes Smith

The Advanced Manufacturing Impact Forum, to be held Nov. 18 in San Diego, Calif., will provide manufacturers, engineers, researchers, academics, and technical managers the opportunity to network, share ideas, and collaborate to shape the future of advanced manufacturing.

The Forum begins at 8:00 a.m. with a special Opening Keynote session, “Advanced Manufacturing: Engaging the Nation and the World to Achieve Economic Prosperity,” featuring panelists Pradeep Khosla, chancellor of the University of California, San Diego; Richard Morris, vice president of assembly and logistics at BMW Manufacturing Co., LLC; Greg Morris, strategy and business development lead for Additive Technologies at GE Aviation; and Michael Molnar, chief manufacturing officer at the National Institute of Standards and Technology. The Keynote will focus on the need to provide a fully integrated perspective on manufacturing in the global market, and the technological, educational, and policy advances that will be necessary to address future manufacturing needs and opportunities.

The rest of the day’s program features several additional sessions, where participants will learn about advanced technology and policy; new opportunities created by public and private partnerships; the status of the U.S. Government’s initiatives through organizations like the National Additive Manufacturing Innovation Institute and the National Network for Manufacturing Innovation; and the exploration of future standards development. The Impact Forum will also include a networking lunch, a networking reception sponsored by the Manufacturing Engineering Division, and a facilitated, hour-long Town Hall Discussion featuring an open dialogue between the Forum speakers and members of the audience.

Registration is now open for the Advanced Manufacturing Impact Forum, a unique, daylong program at the ASME 2013 International Mechanical Engineering Congress and Exposition that brings together experts from government, industry and academia to address the topic of advanced manufacturing — the use of technology to improve products and processes.

Registration for the Advanced Manufacturing Impact Forum may be purchased separately or as part of the full Congress program. To learn more about the Impact Forum, or to register, visit <http://go.asme.org/ImpactForum>.